



Biosolids Management

2008 Performance Report

Orange County Sanitation District staff and affiliated contractors work hard every day for the 2.5 million residents we serve by collecting and treating wastewater solids to annually recycle approximately 250,000 tons of biosolids.

Balance and Sustainability – This annual report reviews how we work to protect the region’s environment and public health by balancing our fiscal responsibility with our goal of recycling our biosolids using sustainable options. This balance, along with improving our efficiencies, is especially critical in today’s tough financial times.

Five-Year Strategic Plan – In 2008, we continued to implement our Five-Year Strategic Plan that reaffirms OCSD’s commitment to a sustainable biosolids program by recycling our biosolids, using our biosolids compost locally, and maintaining our nationally-certified biosolids management system. The Strategic Plan, and its annual updates, contain the agency’s levels of service goals and related targets. They are available online at www.ocsd.com, search “strategic plan.”

Orange County Sanitation District, California



Many residents took part in OCSD's free biosolids-compost giveaway at this 2007 Midway City Sanitary District event.

We work with local cities and residents to let them know that compost keeps gardens green, conserves water and even helps combat climate change, while keeping sewer rates low.

Since 2006, we've received public input cards from over 320 local residents about our biosolids management policy and biosolids products.

- 99% support composting our biosolids and using compost in Orange County.
- 98% support recycling biosolids instead of taking up valuable landfill space.
- 98% said they would use biosolids compost in their own backyards.

Search for "compost" on www.ocsd.com for more information.

We recycle our resources

In 2008, OCSD continued to move towards achieving full secondary treatment standards by rehabilitating facilities and bringing new facilities online. As we increase our wastewater treatment level, the volume of solids generated and treated also increases. We recycle these biosolids and use the methane gas created during biosolids treatment as a renewable energy source to power our two wastewater treatment plants.

We also celebrated the one-year anniversary of the Groundwater Replenishment System (www.gwrsystem.com), a water reclamation project that is providing a sustainable drinking water supply for Orange County.

We use our own products

We continue to use biosolids to build healthy soils. OCSD biosolids were applied to farmlands in Kern County, California and Dateland, Arizona and created healthy, fertile soil from marginal soils. This year, the farms yielded over 26,000 tons of hay.

OCSD is committed to using our biosolids compost in Orange County. In 2008, Orange County's biosolids returned as compost (about 125 tons per day) to enhance local landscaping and sports fields.

By improving soil health with compost, residents and landscapers also help to save water and improve local water quality.



Volunteers plant trees using biosolids compost to build Orange County's largest California native plant-friendly demonstration garden in the city of Orange for O.C. CoastKeepers. Photo courtesy of Peter Pham.



We take pride in our work

OCSD is honored to be recognized with the following recent awards:

- 2008 Predictive Maintenance Program of the Year (staff pictured above)
- 2008 Stockholm Industry Water Award, and 2008 Coastkeeper's Coastal Protection Award for the Groundwater Replenishment System
- 2008 Greater Los Angeles Federal Executive Board Leadership Award
- 2008 GFOA's Certificate of Achievement for Excellence in Financial Reporting
- 2008 California Climate Actions Leaders Award
- 2007/08 NACWA Gold Peak Performance Award and National Environmental Achievement Award for "No Drugs Down the Drain" Program
- 2007/08 MISAC Award for Excellence in Information Technology Practices
- 2007 CASA Public Outreach/Education Award for "Fat, Oil and Grease Outreach" Program
- 2007 NACWA Silver Excellence in Compliance for OCSD's Plant Nos. 1 and 2
- 2007 CAPPO Achievement of Excellence in Procurement Award

We strive for efficiency to minimize costs

OCSD is committed to implementing efficient treatment technologies. The following work was completed in 2008 to improve efficiencies and thereby reduced biosolids program costs:

- Field testing was completed to increase primary solids densities that will improve digestion.
- Secondary treatment facilities were rehabilitated. Solids retention times were increased, reducing secondary solids produced per gallon treated by 20%.
- Belt presses that remove the water from biosolids prior to hauling were optimized at Plant No. 1, increasing the throughput without decreasing performance.
- The OCSD Research Team completed a research strategic plan that included the evaluation of processes and technologies to reduce biosolids production.

Increasing efficiency to reduce costs is especially critical as the annual cost of managing our biosolids has risen from approximately \$5 to \$20 million since 2000.

- As we continue to increase our level of wastewater treatment and move towards full-secondary standards, more solids (about 5% more in 2008) are produced and more biosolids need to be managed.
- The cost to manage OCSD's 250,000 tons of biosolids increased by 18% from \$55 to \$65 per ton due to increased fuel costs and EnerTech's new technology coming online.



OCSD's management team and EnerTech President Kevin Bolin look on as the "first load" of biosolids is unloaded for processing at the Rialto facility start-up event in October 2008.

We are building a sustainable biosolids program

When we saw county bans on biosolids land application and its related prices rising, OCSD developed a Long-Range Biosolids Management Plan in 2003 that recommended criteria for building a long-term sustainable biosolids program; balancing financial, environmental, and societal considerations.

EnerTech's New Facility in Rialto – In 2005, OCSD signed a long-term contract with EnerTech Environmental, Inc., who created a patented process to create a certified, renewable-fuel pellet from biosolids. EnerTech leveraged public and private investment financing and closed an old landfill in order to start construction of their first full-scale, \$160 million innovative facility in Rialto, California in 2008.

In October 2008, EnerTech began the first start-up phase, testing and optimization of the biosolids dryer. The second phase testing of the patented SlurryCarb™ process began in early 2009. EnerTech anticipates the entire facility being fully operational by mid-2009.

Technology Background – When fully-operational, the six-acre Rialto EnerTech facility will be converting 675 tons per day of biosolids from OCSD and four other wastewater treatment agencies into approximately 145 tons per day of pellets that will serve as a synthetic coal to power local cement kilns. The California Energy Commission has certified the pellets as meeting the State's renewable energy portfolio standard. The synthetic coal made from biosolids has less NOx (air pollutant nitrogen oxides) than coal and its ash will also be utilized in the cement product.

The facility is expected to use 60% less energy to create the pellets than traditional biosolids dryers because of EnerTech's energy-saving SlurryCarb™ process.

OCSD's Biosolids Management – OCSD will be sending EnerTech an average of 11 trucks per day (225 tons), which is about one-third of our current biosolids production. While this is an environmentally-friendly way of recycling our biosolids and reducing greenhouse gas emissions from truck hauling because

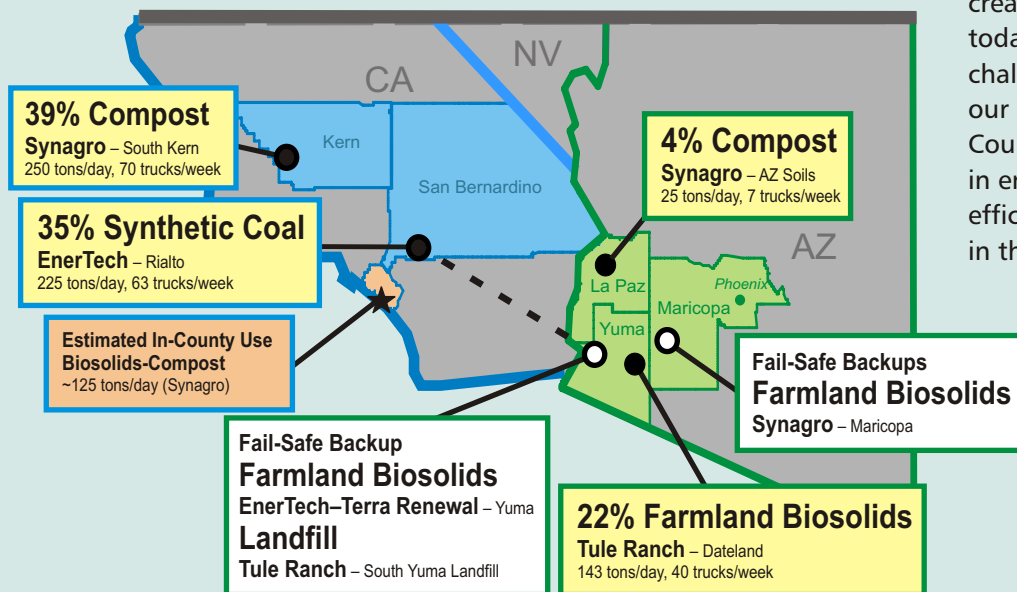
it is our closest recycling location, it is also the most expensive technology management option at approximately \$75–\$80 per ton (depending on fuel costs). During the start-up process, biosolids not processed at the Rialto facility are used on farms in Yuma County, Arizona. For more information on EnerTech Environmental, Inc., visit their Web site at www.enertech.com.

Another third of our biosolids is under a long-term management contract with Synagro Technologies, Inc. to create biosolids compost for consumer and agricultural markets at a cost of approximately \$70 per ton. The remaining third of our biosolids is managed through a short-term contract with Tule Ranch. These biosolids fertilize farmland in Dateland, Arizona. This short-term contract is expected to continue until another viable long-term option becomes available.

A map of OCSD's current biosolids management locations is on the back of this report.

We are working hard to sustain a diverse portfolio

OCSD Biosolids Management – February 2009 Update Product Locations and Contractors



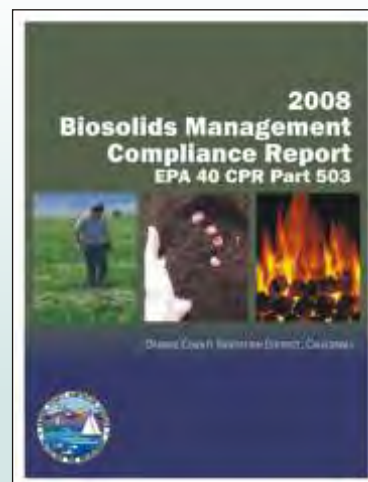
Through dedicated efforts and creative solutions, OCSD is meeting today's biosolids management challenges. Continued support by our Board of Directors and Orange County ratepayers is essential in ensuring we effectively and efficiently meet our future needs in this critical area.

More OCSD biosolids information is available online

OCSD maintained compliance with all biosolids regulatory requirements in 2008. View OCSD's annual biosolids compliance report online at www.ocsd.com (search "503"). This report also contains updates on OCSD's goals, targets, and performance indicators.

OCSD's biosolids program was successfully re-certified by a third-party audit in June 2008. More information is available on www.ocsd.com (search "ems").

To learn more about OCSD's biosolids program visit www.ocsd.com/environmental/biosolids. Sign up for biosolids e-mail updates under E-Notify.



Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708
www.ocsd.com
(714) 962-2411

OCSD 2/09



OCSD Biosolids Policy

OCSD strives to recycle its biosolids using sustainable options while protecting public health and the environment.